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Measuring Elderly Care Through the Use of a Nursing Conceptual Model and the International Classification for Nursing Practice®

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INTRODUCTION: Nursing models and terminologies can contribute to research the nature of nursing care.
AIM: The aim of this study was to describe nursing diagnoses in acute- and long-term elderly care.
METHODS: A point prevalence survey was conducted on 240 patients. The International Classification for Nursing Practice was used to describe nursing diagnoses, and a conceptual model was used to categorize them in nursing needs.
RESULTS: A total of 2,673 diagnoses were detected. Mean was higher in nursing home than in hospital (t test = –3.688; p = .0003). Prevalent diagnoses were significantly different.
DISCUSSION: High complexity, with different issues for nurses, was observed both in acute- and in long-term settings.
CONCLUSION: The results could help to comprehend the nature of older persons needs and could contribute to the development of an International Classification for Nursing Practice catalogue for elderly care.

INTRODUZIONE: Le terminologie infermieristiche possono contribuire a studiare la natura dell'assistenza infermieristica.
SCOPO: Lo scopo dello studio è quello di descrivere le necessità assistenziali infermieristiche dell'anziano nell'ospedale per acuti e in lungodegenza.
METODI: Uno studio di prevalenza di punto è stato condotto coinvolgendo 240 pazienti. L'ICNP è stato impiegato per identificare le necessità assistenziali infermieristiche (nursing diagnoses) ed un modello concettuale per raggrupparle in bisogni di assistenza infermieristica.
RISULTATI: Sono state identificate 2,673 necessità assistenziali. La media è stata maggiore in casa di riposo che in ospedale (t test = –3.688; p = .0003). Le necessità prevalenti sono state significativamente differenti.
DISCUSSIONE: È stata osservata una elevata complessità dell'assistenza infermieristica, con differenti problematiche per gli infermieri, sia nel contesto acuto che di lungodegenza.
CONCLUSIONI: I risultati possono aiutare a comprendere i bisogni delle persone anziane e possono contribuire allo sviluppo di un ICNP Catalogue per l'assistenza in ambito geriatrico.

Introduction

One of the challenges nurses face is to produce evidence of their unique contribution to health care. Nurses have tried to achieve this goal following both deductive and inductive scientific approaches. On the one hand, many nursing theories have been developed, using mostly a deductive approach, to define nursing practice and other concepts relevant to nursing science. Theories of nursing are oriented toward the description of the whole of nursing practice and state the essence of nursing contribution to human knowledge and communities (Fawcett, 2005; Meleis, 2005). On the other hand, nurses have developed different terminologies and classifications of nursing practice using mainly the inductive approach. Language classifications are oriented toward capturing particular and specific nursing care clinical data (such as nursing diagnoses, interventions, and outcomes) to describe nursing care in concrete healthcare situations (Werley & Lang, 1988).

In Italy, the goal to describe nursing practice is difficult to achieve because of the multiple theoretical approaches and languages used in nursing documentation (Palese, De Silvestre, Valoppi, & Tomietto, 2009; Sansoni & Giustini, 2003). Since 1996, Cantarelli's (2003) nursing conceptual model, named *modello delle prestazioni infermieristiche* (MPI), has been used by many Italian healthcare organizations and educational institutions to orient nurses about how to conceptualize their practice. Cantarelli's conceptual model was developed in the late 1980s, using mainly a deductive approach, and led to the operational definition of 11 patient needs as the focus of nursing practice. Nine of these needs resemble the fundamental human needs (e.g., nutrition, hygiene, and movement), while the tenth and eleventh needs are related to Italian nursing practice as observed in working contexts. In fact, the last two MPIs' needs include prescribed clinical tests and other diagnostic procedures and specific or hypothesized medical diagnoses that a patient may present at admission. These last two needs, where nurses are not in full autonomy of action, are called "need for diagnostic procedures" and "need for therapeutic procedures" (Cantarelli, 2003).

Although these 11 needs might represent the whole of Italian nursing practice, no nursing classification or terminology has previously been tested to describe nursing clinical data according to this model. The lack of the use of a classifying system limits the MPI in its capacity to identify specific nursing phenomena in the Italian healthcare context (Ausili, 2010).

The use of a common terminology could represent a valuable method to research the nature of nursing care in different clinical settings (ICN, 2005, 2009). The International Classification for Nursing Practice (ICNP), developed by the International Council of Nurses using mostly an inductive approach, represents a unified combinatory vocabulary aimed to describe nursing clinical data worldwide (ICN, 2005). Since 2002, ICNP beta version has been translated into Italian and used in a small number of studies to develop nursing protocols and to describe nursing practice in different clinical areas (Degan, De Rossi, & Boldrin, 2002; Sansoni & Giustini, 2003, 2006; Sansoni et al. 2002). In 2010, the ICNP version 2.0 translation was started, and a workgroup, connected to the National Nurses Association, was established to research and develop the ICNP in Italy.

Although the MPI represents a disseminated and culturally well-accepted conceptual framework in many regions of Italy, and the ICNP is available in Italian language, no studies have examined their combined use to describe and measure Italian nursing clinical practice.

Elderly care was chosen as the target setting for this study because the Italian population is one of the eldest in Europe (percentage of aged people = 20.2%; the second European country after Germany with 20.4%), and geriatric care has been recognized as a priority area for nursing research, education, and advanced practice (ISTAT, 2010; van Merwijk & Lambregts, 2010; WHO, 2011b). Furthermore, no previous

studies describing older persons' prevalent ICNP diagnoses were found in the literature. Finally, this clinical area was chosen considering the need for data to allow the development of an ICNP catalogue for elderly care.

Aims of the Study

The primary aim of this study was to describe and compare elderly patients' needs for nursing care in acute- and long-term elderly care, combining the approaches used by the ICNP (ICN, 2009) and Cantarelli's (2003) conceptual model. The secondary aim of this study was to demonstrate the value of concurrent use of the MPI and the ICNP to measure nursing practice in Italy.

Methods

A point prevalence survey was conducted in Varese, an 82,000-inhabitant town in the Lombardy Region (Northern Italy). Cantarelli's (2003) MPI was chosen because it has been used both in nursing education (Varese School of Nursing) and in practice (Varese Hospital) since 1992 as the most adequate for the Italian context and culture. MPI was used to guide nursing assessment and to group nursing diagnoses into the first nine fundamental nursing needs described in this model.

The ICNP was chosen because it is intended as a standardized terminology and not, at first, as a taxonomy of nursing clinical data (ICN, 2005). For this reason, it has the potential of including different theoretical approaches or classifications, avoiding any conflict, and matching with the local social, cultural, and professional context.

Sample

A convenience sample of 240 patients from Varese Hospital (H; medical and geriatric wards, $n = 139$) and "Molina" Nursing Home (NH; $n = 101$) was chosen for the study. Authorizations were obtained from the hospital and nursing home General Directors and Nursing Directors. An informed consent was obtained from all nursing home patients involved as requested by the Health Director.

All hospital and nursing home admitted patients who were 65 or more years old, according to the World Health Organization (2011a) definition of older persons, were included in this cross-sectional design.

Data Collection

A paper data collection tool, based on the MPI conceptual model (Cantarelli, 2003), was developed for the study. Nurses involved in the data collection were chosen on a voluntary basis among nurse tutors with documented clinical expertise. Data collectors participated in the tool development process to validate its clinical contents and to standardize its administration. Four meetings of specific education were conducted by the main researcher for the nine nurses actively involved in data collection. During these meetings, participants learned a standardized procedure to collect data, and all data collectors surveyed two simulated elderly care cases to test the survey instrument and to verify the homogeneity (reliability) of the collected data. Demographic, epidemiological, and nursing clinical data were collected from healthcare documentation of the selected patients. When documentation was unclear because of abbreviations or other reasons, data collectors performed a nursing assessment using direct observation and interview, to interpret or verify data. Data collection started in June 2010 and ended in July 2010.

Data Analysis

Detected ICNP nursing diagnoses were categorized into the following MPI fundamental (or "human innate"; Cantarelli, 2003) nursing needs: breathing; maintaining cardiovascular function; movement; hygiene; safe environment; nutrition and hydration; urinary and bowel elimination; interacting in

communication; and rest and sleep. Descriptive and inferential statistics were applied to describe and compare patients' demographic and epidemiological characteristics, nursing needs, and nursing diagnoses. The MedCalc® (version 12.1.1, MedCalc Software, Mariakerke, Belgium) statistical software was used to perform data analyses. The data analysis was concluded in January 2011.

Results

Demographic and epidemiological characteristics were statistically different in H (n = 139) and NH patients (n = 101). The mean age was lower in H than in NH patients (H mean = 80.93; NH mean = 86.15; t test = 5.60; confidence interval [CI] 95% = from 3.38 to 7.05; $p < .0001$). Female patients were more prevalent in NH than in H (NH proportion = 77.2%; H proportion = 54%; CI 95% = from 10.5% to 34.8%; chi-square = 12.64; $p = .0004$). Differences were also seen in the prevalence of primary medical diagnoses (Table 1). Cerebrovascular ($p = .0461$), pulmonary ($p = .0011$), and gastrointestinal ($p = .0018$) morbidities were more common in H patients. Psychiatric ($p < .0001$), sensory ($p = .0046$), and degenerative neurological illnesses ($p < .0001$) were significantly more prevalent among patients in the NH. No differences were found in cardiovascular ($p = .6127$), dismetabolic ($p = .8825$), and cancer ($p = .1855$) morbidity prevalence.

The mean number of comorbidities was higher in NH than in H patients (Table 2). Cancer ($p = .0273$) and nephrological ($p = .0005$) comorbidities were

Table 1. Prevalence of Primary Medical Diagnoses: Comparison Between the Hospital and the Nursing Home Patients

Primary medical diagnosis	Hospital (n = 139) (%)	Nursing home (n = 101) (%)	Difference (%)	Confidence interval 95% (% to %)	Chi-square	Significance level (p)
Cardiovascular	23.6	20	+3.6	–7.7 to +14.3	.25	.6127
Cerebrovascular	15.1	6	+9.1	+0.5 to +17	3.97	.0461
Cancer	14.3	7.9	+7.9	–2.4 to +14.6	1.75	.1855
Pulmonary	13.6	1	+12.6	+5.7 to +19.5	10.60	.0011
Gastrointestinal	12.8	1	+11.8	+5 to +18.5	9.70	.0018
Neurological	7.1	31.8	–24.7	–14.6 to –35.36	23.04	<.0001
Musculoskeletal	6.4	8.9	–2.5	–4.7 to +10.6	.23	.6318
Dismetabolic	5	1	+4	–1.3 to +9.1	1.80	.1792
Nephrological	2.1	1	+1.1	–3.6 to +5.2	.02	.8825
Psychiatric	0	14.2	–14.2	–7.5 to –22.5	18.54	<.0001
Sensory	0	7.2	–7.2	–2.2 to –14.1	8.01	.0046

Table 2. Mean Number of Comorbidities per Patient in Hospital and Nursing Home Study Settings

	Nursing home (n = 101)	Hospital (n = 139)	t test	Significance level (p)
Comorbidities mean per patient	4.366	3.093	–8.833	.0001
Standard deviation	1.163	1.056		

Table 3. Comparison of the Percentage of Comorbidities for Hospital and Nursing Home Patients

Comorbidities	Hospital (*n* = 139) (%)	Nursing home (*n* = 101) (%)	Difference (%)	Confidence interval 95% (% to %)	Chi-square	Significance level (*p*)
Cardiovascular	56.8	60.3	−3.5	−9.7 to +16.4	.16	.6816
Dismetabolic	37.4	43.5	−6.1	−6.9 to +19.1	.67	.4128
Cancer	21.5	9.9	+11.6	+1.6 to +20.8	4.87	.0273
Nephrological	20.1	3.9	+16.2	+7.5 to +24.3	11.95	.0005
Gastrointestinal	17.2	36.6	−19.4	−7.5 to −31.1	10.62	.0011
Pulmonary	16.6	30.6	−14.0	−2.6 to −25.5	7.79	.0160
Neurological	14.3	21.7	−7.4	−2.8 to +18.1	1.74	.1868
Cerebrovascular	11.5	30.6	−19.1	−8.1 to −30.1	12.38	.0004
Musculoskeletal	6.4	46.5	−40.1	−28.7 to −50.8	50.45	<.0001
Psychiatric	5.7	30.6	−24.9	−14.6 to −35.3	24.93	<.0001
Sensory	.7	22.7	−22.0	−13.6 to −31.4	29.16	<.0001

Table 4. Comparison of the Total Number and Means of Nursing Diagnoses for Hospital and Nursing Home Patients

ICNP nursing diagnoses	Nursing home (*n* = 101)	Hospital (*n* = 139)	Total	*t* test	Significance level (*p*)
Number of nursing diagnoses	1,249	1,424	2,673		
Mean per patient	12.366	10.244		−3.688	.0003
Standard deviation	3.931	4.712			

ICNP, International Classification for Nursing Practice.

significantly more prevalent in H patients; and cerebrovascular, musculoskeletal, psychiatric, and sensory comorbidities were more prevalent in NH with a high-significance level (Table 3). The mean number of nursing diagnoses per patient was higher in NH than in H (Table 4). Using Canterelli's needs framework, breathing, maintaining cardiovascular function, safe environment, nutrition, and hydration needs were prevalent in H nursing care. The patient's needs of movement, hygiene, urinary and bowel elimination, interacting in communication, and rest and sleep were more prevalent in NH than in H elderly care (Table 5).

Using the ICNP, the 10 most prevalent H nursing diagnoses were analyzed to determine percentage differences in these diagnoses between H and NH patients. The percentages were statistically different with the exception of three diagnoses: *hypertension*, *risk for thrombosis*, and *risk for pressure ulcers*. Only two nursing diagnosis (*impaired ability to bathe* and *impaired walking*) were included in the first 10 most prevalent phenomena in both H and NH (Table 6 and Table 7). The three most prevalent diagnoses per MPI's nursing need in H and NH are shown in Table 8.

The whole of nursing elderly care (2,673 nursing diagnoses including H and NH patients) was described using 63 ICNP "negative diagnosis" statements (49 for NH patients; 63 for H patients: these include all NH diagnoses). Using ICNP-coded concepts, nine

Table 5. Comparison of the Number and Percentage of Nursing Needs for Hospital and Nursing Home Patients

MPI nursing needs	Hospital (*n* = 1,424) *f*(x)	*p*(x)%	Nursing home (*n* = 1,249) *f*(x)	*p*(x)%	Difference (%)	Confidence interval 95% (% to %)	Chi-square	Significance level (*p*)
Breathing	126	8.84	7	.56	+8.28	+6.7 to 9.9	94.2	<.0001
Maintaining cardiovascular function	295	20.71	98	7.84	+12.87	+10.2 to 15.4	86.8	<.0001
Movement	161	11.30	175	14.01	−2.71	−.1 to −5.3	4.2	.0400
Hygiene	171	11.93	263	21.11	−9.18	−6.3 to −12.0	40.5	<.0001
Safe environment	192	13.48	119	9.52	+3.96	+1.4 to 6.4	9.7	.0018
Nutrition and hydration	207	14.60	94	7.52	+7.08	+4.6 to 9.4	32.5	<.0001
Urinary and bowel elimination	145	10.18	176	14.09	−3.91	−1.3 to −6.4	9.2	.0023
Interacting in communication	79	5.54	216	17.27	−11.73	−9.2 to −14.2	92.1	<.0001
Resting and sleeping	48	3.37	101	8.08	−4.71	−2.9 to −6.5	27.1	<.0001

MPI, *Modello delle prestazioni infermieristiche*.

Table 6. Comparison of the Ten Most Prevalent Hospital Nursing Diagnoses for Hospital and Nursing Home Patients

ICNP nursing diagnoses	Hospital (*n* = 139) *f*(x)	*p*(x)%	Nursing home (*n* = 101) *f*(x)	*p*(x)%	Difference (%)	Confidence interval 95% (% to %)	Chi-square	Significance level (*p*)
Risk for infection	98	70.5	14	13.8	+56.7	+44.9 to 66.2	73.3	<.0001
Hypertension	54	38.8	30	29.7	+9.1	−3.7 to 21.3	1.7	.1860
Risk for arrhythmia	49	35.2	14	13.8	+21.4	+9.9 to 31.8	12.7	.0004
Dyspnea	45	32.3	7	6.9	+25.4	+15.1 to 34.7	20.8	<.0001
Risk for thrombosis	43	30.9	25	24.7	+6.2	−6.0 to 17.8	.8	.3641
Impaired walking	42	30.2	83	82.1	−51.9	−39.7 to −62.1	61.0	<.0001
Impaired ability to bathe	39	28.0	87	86.1	−57.3	−45.5 to −66.8	74.8	<.0001
Risk for pressure ulcers	39	28.0	28	27.7	+.3	−11.9 to 12.1	.009	.9246
Impaired cardiovascular patterns	37	26.6	5	4.9	+21.7	+12.2 to 30.5	17.6	<.0001
Risk for malnutrition	36	25.8	7	6.9	+18.9	+9.1 to 27.9	12.9	.0003

ICNP, International Classification for Nursing Practice.

diagnoses were composed by researchers because they were not included in ICNP as pre-coordinated diagnoses. The newly composed diagnoses were *risk for thrombosis*, *inability to manage urinary catheter*, *inability to perform self-feeding*, *risk for arrhythmia*, *risk for hypotension*, *risk for malnutrition*, *risk for bleeding*, *inability to perform food preparation*, and *inability to perform colostomy hygiene*.

Table 7. Comparison of the Ten Most Prevalent Nursing Home Nursing Diagnoses for Nursing Home and Hospitalized Patients

ICNP nursing diagnoses	Nursing home (*n* = 101) *f*(x)	*p*(x)%	Hospital (*n* = 139) *f*(x)	*p*(x)%	Difference (%)	Confidence interval 95% (% to %)	Chi-square	Significance level (*p*)
Impaired ability to bathe	87	86.1	39	28.0	+58.1	+46.4 to 67.5	76.8	<.0001
Risk for fall	85	84.1	35	25.1	+59.0	+47.2 to 68.5	79.1	<.0001
Impaired walking	83	82.1	42	30.2	+51.9	+39.7 to 62.1	61.0	<.0001
Impaired ability to dress	78	77.2	21	15.1	+62.1	+56.3 to 71.6	90.5	<.0001
Urinary incontinence	73	72.2	23	16.5	+55.7	+43.5 to 65.6	73.3	<.0001
Impaired self-toileting	69	68.3	18	12.9	+55.4	+43.3 to 65.6	75.3	<.0001
Impaired wheelchair mobility	50	49.5	12	8.6	+40.9	+29.1 to 51.8	48.9	<.0001
Impaired sleep	48	47.5	12	8.6	+38.9	+27.2 to 49.8	45.1	<.0001
Chronic confusion	45	44.5	15	10.7	+33.8	+22.0 to 45.0	33.9	<.0001
Bowel incontinence	44	43.5	19	13.6	+29.9	+17.9 to 41.3	25.5	<.0001

ICNP, International Classification for Nursing Practice.

These diagnoses will be submitted to the ICNP program submission process for review.

Discussion

The data analysis showed needs for geriatric nursing care in both acute- and long-term facilities. In fact, although patients showed different epidemiological characteristics, the high number and typology of detected nursing diagnoses suggest the presence of highly complex nursing care in both the selected settings. In the hospital, nursing care is more focused on maintaining vital functions and on preventing clinical risks. Risk for arrhythmia, risk for infection, risk for malnutrition, and risk for pressure ulcer represent relevant issues for nurses caring for hospitalized older persons. In nursing homes, elderly care is more oriented toward supporting activities of daily living such as movement, hygiene, elimination, and maintaining patients' communication, in patients with both psychological and sensorial deficits. Urinary and bowel incontinence, chronic confusion, and functional inabilities are actual challenges for nurses working in nursing home settings. Considering the key elements described as nursing clinical data by the International Nursing Minimum Data Set program (diagnoses–outcomes–interventions; Werley & Lang, 1988), the results offer a "nursing-clinical-data"-based evidence to support the hypothesis, argued often from disease-severity criteria, of a different focus and scope of action for nurses in acute- and long-term elderly care settings. The results also underscored clinical and research actual problems for elderly care, considering the prevalence of nursing diagnoses demonstrated by older persons admitted to healthcare institutions.

The concurrent use of MPI and ICNP was found highly valuable in describing and comparing patient's needs. The MPI theoretical framework facilitated nursing assessment and allowed researchers to group and to classify nursing diagnoses by patients' needs. The use of the ICNP language allows nurses to define, with a standardized terminology, the specific phenomena that bring a patient to present a particular MPI nursing need. Furthermore, using the ICNP, it was possible to describe in a standardized way and to

Table 8. Three Most Prevalent Nursing Diagnoses for Nine Nursing Needs for Hospital and Nursing Home Patients

MPI nursing needs	Prevalent ICNP diagnoses per need in hospital (*n* = 139)	Number of patients (%)	Prevalent ICNP diagnoses per need in nursing home (*n* = 101)	Number of patients (%)
Breathing	Dyspnea	45 (32)	Dyspnea	7 (6)
	Impaired breathing patterns	36 (25)	Stress dyspnea	2 (1)
	Stress dyspnea	19 (13)	—	
Maintaining cardiovascular function	Hypertension	54 (38)	Hypertension	30 (29)
	Risk for arrhythmia	49 (35)	Risk for thrombosis	25 (24)
	Risk for thrombosis	43 (30)	Risk for arrhythmia	14 (13)
Movement	Impaired walking	42 (30)	Impaired walking	83 (82)
	Impaired bed mobility	29 (20)	Impaired wheelchair mobility	50 (49)
	Pain	29 (20)	Impaired bed mobility	30 (29)
Hygiene	Impaired ability to bathe	39 (28)	Impaired ability to bathe	87 (86)
	Skin wound	26 (18)	Impaired ability to dress	78 (77)
	Impaired ability to dress	21 (15)	Impaired self-toileting	69 (68)
Safe environment	Risk for infection	98 (70)	Risk for fall	85 (84)
	Risk for pressure ulcer	39 (28)	Risk for pressure ulcer	28 (27)
	Risk for fall	35 (25)	Risk for infection	14 (13)
Nutrition and hydration	Risk for malnutrition	36 (25)	Inability to perform self-feeding	25 (24)
	Inability to perform self-feeding	28 (20)	Overweight	24 (23)
	Obesity	23 (16)	Lack of ability to manage dietary regimen	18 (17)
Urinary and bowel elimination	Inability to manage urinary catheter	34 (24)	Urinary incontinence	73 (72)
	Constipation	29 (20)	Bowel incontinence	44 (43)
	Risk for constipation	23 (16)	Constipation	41 (40)
Interacting in communication	Anxiety	21 (15)	Chronic confusion	45 (44)
	Chronic confusion	15 (10)	Hearing deficit	28 (27)
	Depression	12 (8)	Inability to see	22 (21)
Resting and sleeping	Resting dyspnea	18 (12)	Impaired sleep	48 (47)
	Insomnia	15 (10)	Insomnia	42 (41)
	Impaired sleep	12 (8)	Sleep deprivation	5 (4)

ICNP, International Classification for Nursing Practice; MPI, *Modello delle prestazioni infermieristiche*.

compare nursing diagnoses detected by different collectors in different clinical settings (i.e. Hospital and Nursing Home).

To describe nursing care in hospital and nursing home settings, 63 ICNP concepts were used. This small number (ICNP version 2 total number of concepts is nearly 2,800) indicates a limited use of a wider terminology. Considering the total number of available concepts, this point suggests the potential of this terminology for describing the whole of Italian

nursing care. Based on these results, ICNP version 2 might easily be used in other areas of Italian nursing practice, different from elderly care, alone or combined with MPI or another conceptual model of choice. Nine new ICNP diagnoses were composed by researchers describing elderly care. These diagnoses represent an original contribution of this study to ICNP development and utilization.

Study Limitations

The subgroups' sample size, the convenience sampling, the impossibility of generalization beyond the study population, and the data collection tool (specifically developed by researchers) represent some research limits. Strong aspects of the study were the training for data collectors, the overall size of the study sample, the use of an explicit conceptual framework, and the use of an international standardized nursing terminology to describe patients' necessities.

Conclusions and Practical Recommendations

Using the MPI and ICNP version 2.0, elder patients' needs can be identified, and diagnoses can be related to the nursing care these diagnoses require. In Italy, there is no agreement on a unique conceptual approach or on a specific terminology to describe nursing care. A lot has to be done to build a theory-classification approach to document and to make visible nursing practice. Further studies are needed to evaluate the value of the concurrent use of a conceptual model with a chosen terminology to capture Italian nursing care.

Where MPI has been used for a few years, it has been relatively easy to complement it with ICNP. It could be useful to investigate the ICNP implementation within a nursing clinical information system based on the MPI nursing needs categorizations. The concurrent use of MPI and ICNP might enhance the effectiveness of both describing and measuring nursing practices in Italy.

The study results could be useful for nurse academics to better explain the nature of older persons' nursing needs; educators could also consider the use of both this theoretical framework and terminology to teach nursing process and nursing documentation. Health managers and nursing directors could consider patients' morbidities, comorbidities, and nursing needs to evaluate staff's ratio and skill-mix in Italian hospitals and nursing homes.

Moreover, ICNP nursing phenomena identified in this study could be considered and compared with the results of other studies to build an International ICNP Catalogue for elderly care. Further research is needed to measure and compare nursing interventions in Italian acute- and long-term elderly care. The Italian home care setting should be evaluated too, to reach a full description of older persons' nursing needs. Qualitative research could contribute to a wider understanding of the experience of older persons admitted to hospital and nursing home who require nursing care.

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